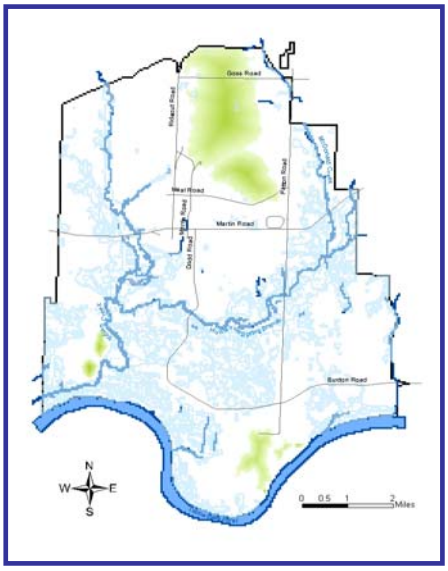
Mapping the Road to Success

It was not long ago that the USGS topographic quadrangle maps were standard issue for field work in biology, archeology, and many other disciplines. Over the last several years, however, the Redstone environmental office has been transitioning to the use of databases to collect, track, and analyze data. These databases are now being merged with spatial information to yield geodatabases which are the foundation for Redstone's Geographic Information System (GIS). The GIS not only produces more vivid and accurate maps but it allows for spatial data analysis using ESRI's ArcGIS software.



The current system allows resource managers to conduct preliminary reviews for proposed construction projects and mission actions from their PCs. This has streamlined environmental programs such as NEPA and CERCLA by allowing for faster turn-around times when reviewing projects. Proposed project locations are created as shape files which can then be overlain with natural, cultural, and other environmental resource data layers in a map document. While GIS does not eliminate the need for field work, it can help prioritize those projects which may need further investigation.

As a planning tool, Redstone's GIS allows resource managers to work with proponent organizations in the early stages of a project to incorporate existing environmental constraints into the design. This process not only helps minimize the impacts to the environment but it reduces overall project costs by decreasing the possibility of expensive mitigation actions.

Redstone's GIS personnel continue to upgrade data and software to insure reliability and efficiency. Over the last year, Redstone has been in the process of implementing ESRI's Spatial Data Engine (SDE). This configuration allows for more robust enterprise by permitting multiple simultaneous users and edits.

Additionally, all data is formatted in compliance with the Spatial Data Standards for Facilities, Infrastructure, and Environment (SDSFIE). By investing time and resources into the latest spatial data technology Redstone's environmental office is better able to protect natural and cultural resources without compromising the Army mission.